Application No. 10/065,866
Attorney Docket No. 129716

AMENDMENTS TO THE CLAIMS

Please amend the claims as follows:

1. (Currently amended) A patient positioning system for medical applications, said system comprising:

a patient positioning surface for supporting a patient;

a lift subsystem for adjusting elevation of said patient positioning surface;

a longitudinal subsystem **including a rack and pinion mechanism** for moving said patient positioning surface in a longitudinal direction;

a lateral subsystem for moving said patient positioning surface in a lateral direction;

a tilt subsystem for tilting said patient positioning surface;

a rotation subsystem for rotating said patient positioning surface; and

a control subsystem for controlling operation of said patient positioning system.

2. (Original) The system of claim 1, wherein said control subsystem performs iso-center tracking to maintain a region of interest of said patient in an image area during tilt.

3. (Currently amended) **A patient positioning system for medical applications, said system comprising:**

a patient positioning surface for supporting a patient;

a lift subsystem for adjusting elevation of said patient positioning surface;

a longitudinal subsystem for moving said patient positioning surface in a longitudinal direction;

a lateral subsystem for moving said patient positioning surface in a lateral direction;

a tilt subsystem for tilting said patient positioning surface;

a rotation subsystem for rotating said patient positioning surface; and

a control subsystem for controlling operation of said patient positioning system.

~~**The system of claim 1,**~~ wherein said lift subsystem adjusts elevation of said patient positioning surface using a two-stage synchronized telescopic lift system.

4. (Currently amended) **A patient positioning system for medical applications, said system comprising:**

a patient positioning surface for supporting a patient;

a lift subsystem for adjusting elevation of said patient positioning surface;

a longitudinal subsystem for moving said patient positioning surface in a longitudinal direction;

a lateral subsystem for moving said patient positioning surface in a lateral direction;

a tilt subsystem for tilting said patient positioning surface;

a rotation subsystem for rotating said patient positioning surface; and

a control subsystem for controlling operation of said patient positioning system.

~~**The system of claim 1,**~~ wherein said longitudinal subsystem moves said patient positioning surface in a longitudinal direction using a two-stage synchronized telescopic longitudinal system.

5. (Original) The system of claim 1, wherein said longitudinal subsystem and said lateral subsystem allow manual movement of said patient positioning surface in at least one of a lateral direction and a longitudinal direction.

6. (Currently amended) The system of claim 1, further comprising a base for securing said patient positioning system, said base**[[d]]** affixed to a floor.

7. (Original) The system of claim 1, further comprising patient restraints for securing said patient to said patient positioning surface.

8. (Currently amended) **A patient positioning system for medical applications, said system comprising:**

a patient positioning surface for supporting a patient;

a lift subsystem for adjusting elevation of said patient positioning surface;

a longitudinal subsystem for moving said patient positioning surface in a longitudinal direction;

a lateral subsystem for moving said patient positioning surface in a lateral direction;

a tilt subsystem for tilting said patient positioning surface;

a rotation subsystem for rotating said patient positioning surface;

a control subsystem for controlling operation of said patient positioning system;

~~**The system of claim 1, further comprising:**~~

a power-on brake for braking when a voltage is supplied to said power-on brake; and

a power-off brake for braking when a voltage is removed from said power-off brake.

9. (Original) The system of claim 1, further comprising at least one encoder for determining the position of said patient positioning surface.

10. (Original) The system of claim 9, wherein said at least one encoder allows said patient positioning surface to return to a recorded position.

11. (Currently amended) A method for positioning a patient for medical applications, said method comprising:

vertically positioning a patient positioning surface to a desired height to allow a patient to be loaded onto the patient positioning surface;

rotating the patient positioning surface to a position to allow a patient to be loaded onto the patient positioning surface;

loading a patient on the patient positioning surface;

positioning the patient for a medical procedure, said positioning step comprising at least one of rotating, lifting, lateral motion, longitudinal motion, and longitudinal tilting of the patient positioning surface; and

maintaining a region of interest of the patient during **a procedure involving** movement of the patient positioning surface.

12. (Currently amended) **A method for positioning a patient for medical applications, said method comprising:**

vertically positioning a patient positioning surface to a desired height to allow a patient to be loaded onto the patient positioning surface;

rotating the patient positioning surface to a position to allow a patient to be loaded onto the patient positioning surface;

loading a patient on the patient positioning surface;

positioning the patient for a medical procedure, said positioning step comprising at least one of rotating, lifting, lateral motion, longitudinal motion, and longitudinal tilting of the patient positioning surface;

maintaining a region of interest of the patient during movement of the patient positioning surface; and

~~**The method of claim 11, further comprising**~~ unloading the patient from the patient positioning surface.

13. (Original) The method of claim 11, further comprising returning the patient positioning surface to a horizontal starting position for emergency situations.

14. (Original) The method of claim 11, further comprising securing the patient to the patient positioning surface.

15. (Original) The method of claim 11, further comprising locking the patient positioning surface during the medical procedure.

16. (Original) The method of claim 11, further comprising manually moving the patient positioning surface in at least one of the lateral and longitudinal directions.

17. (Currently amended) A grouted tilting patient positioning system for vascular applications, said system comprising:

a base for securing said patient positioning system, said base[[d]] affixed to a floor;

a patient positioning surface for supporting a patient;

a telescopic lift subsystem for adjusting elevation of said patient positioning surface;

a telescopic longitudinal subsystem **including a rack and pinion mechanism** for moving said paticnt positioning surface in a longitudinal direction;

a lateral subsystem for moving said patient positioning surface in a lateral direction;

a tilt subsystem for tilting said patient positioning surface; and

a rotation subsystem for rotating said patient positioning surface.

18. (Original) The system of claim 17, further comprising patient rcstraints for securing said patient to said patient positioning surface.

19. (Currently amended) **A grouted tilting patient positioning system for vascular applications, said system comprising:**

a base for securing said patient positioning system, said base affixed to a floor;

a patient positioning surface for supporting a patient;

a telescopic lift subsystem for adjusting elevation of said patient positioning surface;

a telescopic longitudinal subsystem for moving said patient positioning surface in a longitudinal direction;

a lateral subsystem for moving said patient positioning surface in a lateral direction;

a tilt subsystem for tilting said patient positioning surface;

a rotation subsystem for rotating said patient positioning surface;

~~**The system of claim 17, further comprising:**~~

a power-on brake for braking when a voltage is supplied to said power-on brake; and

a power-off brake for braking when a voltage is removed from said power-off brake.

20. (Original) The system of claim 17, further comprising at least one encoder for determining the position of said patient positioning surface.

21. (Original) The system of claim 20, wherein said at least one encoder allows said patient positioning surface to return to a recorded position.

22. (Original) The system of claim 17, further comprising a control subsystem for controlling operation of said patient positioning system.

23. (Original) The system of claim 22, wherein said control subsystem performs iso-center tracking to maintain a region of interest of said patient in an image area during tilt

24. (Original) The system of claim 22, wherein said control subsystem avoids collision with at least one of the ground and a predetermined object by continuously monitoring coordinates of all axes of motion, calculating a clearance from said at least one of said ground and said predetermined object, and stopping motion of said patient positioning surface if said clearance is less than or equal to a specified safe limit.

25. (Original) A patient positioning system, said system, comprising:

a table for positioning a patient, said table capable of rotation, lift, and longitudinal motions, said table capable of longitudinal tilt, wherein a region of interest of said patient is maintained in an image area during tilt;

a base attaching said table to a floor; and

a user interface for controlling movement of said table.